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CONTENTS:

DIPTEROLOGICAL CONTRIBUTIONS, ... *C. F. Adams.*

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VOL. II, No. 2. JUNE, 1903. WHOLE SERIES VOL. XII, No. 2

DIPTEROLOGICAL CONTRIBUTIONS.

BY C. F. ADAMS.

FOR the pleasure of studying diptera in the University of Kansas, I have to thank Dr. F. H. Snow, whose interest in things scientific is so well known. To Dr. S. W. Williston I am under deep obligations, for the use of his dipterological library and his collection. To Prof. J. M. Aldrich and Mr. D. W. Croquillet thanks are due for looking up references.

The material reported in this paper comes principally from two localities, Rhodesia, Africa, and western North America. The African material was collected by Mr. F. L. Snow, son of Dr. F. H. Snow, while visiting near Salisbury, Rhodesia. This lot is a very important addition to the University collection, and as I get time and literature more at my command I shall report further concerning it. Most of the American species were collected by expeditions under the direction of Doctor Snow. I have Doctor Williston's consent for including his two new species in this paper.

I. NORTH AMERICAN SPECIES.

MYCETOPHILIDÆ.

Mycetobia marginalis, n. sp.

Female: Black, shining; head black, subshining, tip of palpi yellow; mesonotum black, shining, humeri, lateral and posterior margins, and scutellum with a reddish cast, pile yellow, pleuræ black, mostly shining, halteres brown; abdomen light yellow, last segment wholly, and the preceding with the basal half, blackish; legs light yellow, tips of tarsi fuscous; wings agree very well with those of *M. palipes* Meig., except the auxiliary vein is a little shorter. Length, 3.5 mm.

One specimen; Atherton, Mo. Collected by the writer, May 3, 1901.

Macrocera diluta, n. sp.

Male: Yellow, shining; antennæ, except base, two stripes on occiput, three fascia on mesonotum, the central one joining two narrow ones coming from base of wings, three spots on pleuræ, lower half of metanotum, base of abdominal segments from the third, with hypopygium wholly, small spot on base of middle and posterior coxæ, tips of femora and tibiæ dark brown; wings hyaline, fascia near central part dark brown, a small fuscous spot on anterior margin about midway between tip of anterior branch of third vein and apex of wing, not reaching fourth vein.

Female: Agrees with the male, except that all of the abdominal segments, without the first, have the base dark brown; the subapical spot of wing is larger, crossing the anterior branch of the fourth vein. Length, 5 mm.; antennæ, 7 mm.

A specimen of each sex; Arizona, August. Prof. F. H. Snow.

Ceroplatus apicalis, n. sp.

Male: Head brownish, anterior part of front, two basal joints of antennæ, face and mouth-parts yellow; thorax immaculate, reddish yellow, the black pile very short, except on the sides, pleuræ light yellow, halteres with knobs slightly infuscated; abdomen reddish yellow, base of second, third, fourth, and remainder of apex wholly black; legs light yellow, apical half of tibiæ and tarsi wholly blackish; wings hyaline, smoky towards apex, auxiliary vein ends in the costa about midway between humeral cross-vein and base of third, anterior branch of third ends in costa about midway between tip of first and apex of second branch of third, furcation of fifth almost opposite base of second. Length, 3.7 mm.

One specimen; Douglas county, Kansas. E. S. Tucker.

Sciophila angulata, n. sp.

Female: Yellow, subshining; head black, anterior part of front, base of antennæ, face and mouth-parts yellow; thorax yellow, mesonotum with three subcoalesced fuscous fascia, the middle one abbreviated behind, the lateral ones in front, pile rather long and yellow, large spot on the pleuræ above middle coxæ brown; abdomen yellow, base of segments brown, pile black; legs light yellow, anterior tibæ shorter than their tarsi;

tips of tarsi fuscous; wings grayish hyaline, marginal cell twice as long as broad, anterior branch of third vein angulate, its apex turned towards base of wing, auxiliary cross-vein slightly beyond middle of marginal cell. Length, 6 mm.

Manitou Park, Colo., August. Prof. F. H. Snow.

It is near *S. flavohirta* Coq., but differs in the markings of the thorax, length of anterior tibiæ, and the angulated anterior branch of the third longitudinal vein.

Sciophila nigricauda, n. sp.

Male: Yellow, subshining; head black, base of antennæ and mouth-parts yellow, sparse pile black; thorax yellow, in places slightly tinged with brown, viewed from before slightly grayish pollinose, pile black, halteres yellow; abdomen yellow, apices of segments, last one wholly black, hypopygium yellow, pile light brown; legs yellow, tarsi, except base, fuscous; wings hyaline, larger veins brown, auxiliary cross-vein near apex of auxiliary vein and just before the middle of the marginal cell, first branch of fourth vein about as long as its prefurca, furcation of the fifth vein takes place just beyond the small cross-vein. Length, 4 mm.

One specimen; Colorado City, Colo., July, 1894. E. S. Tucker.

Tetragoneura nitida, n. sp.

Female: Black, shining; head black, front bearing yellow pile, antennæ dark brown, first two joints and palpi yellowish; mesonotum black, shining, pile yellow, bristles on margins black, scutellum black, bristles yellow, metanotum and pleuræ black, halteres yellow; abdomen wholly shining black, pile yellow; legs yellow, with tip of hind femora, middle and hind tibiæ and all tarsi brown; wings hyaline, tinged with brown on the anterior part, auxiliary vein short, ending free, the furcation of the fourth vein is slightly distad to that of the third, the furcation of the fifth is nearly opposite the junction of the small cross- and fourth veins. Length, 2.7 mm.

One specimen; Atherton, Mo. Collected by writer, May 5, 1901.

Syntemna mutor, n. sp.

Male: Black, subshining; head black, base of third antennal joint and apex of palpi, brownish yellow, antennæ sericeous, front with a few yellowish hairs; mesonotum black, subshining, covered with thin, grayish pollen and yellow pile, a few black bristles on lateral margins near base of wings, scutellum black, bristles concolorous, pleuræ black, bearing sparse yellow pile above front coxæ, metanotum black, halteres yellowish; abdomen in the majority of specimens fulvous except the last segment and hypopygium, which are black, in other specimens the abdomen is largely black, and in one specimen, it is entirely so, pile in all specimens yellow; legs yellow, middle tibiæ on posterior side and tarsi, except base of metatarsi, brown; wings grayish hyaline, tip with a slight blackish tinge, anterior veins dark brown, others lighter, auxiliary vein joins first nearly opposite the base of the fourth, furcation of the fourth and fifth veins opposite the junction of third and small cross-vein.

Female: Agrees with the male, except that the pile of the thorax is almost wholly black, the abdomen is more uniformly fulvous, and the furcation of the fourth vein is a little more proximad than that of the fifth. Length, 3.5 mm.

Many specimens of both sexes; Atherton, Mo. Collected by the writer, during April and May, 1899, 1900, 1901.

Boletina abdominalis, n. sp.

Male: Black, subshining; head and members black, except first antennal joint, which is tinged with yellow, middle ocellus very small; mesonotum black, subshining, covered with yellow pile, which are inclined to arrange themselves into rows, scutellum black, pile yellow, pleurae black, without pile, metanotum black, halteres black; abdomen wholly black, subopaque, hypopygium with a yellowish tinge, pile yellow; legs yellowish, trochanters and tarsi, except base, largely fuscous; wings grayish hyaline, veins fuscous, auxiliary vein joins costa opposite base of third, auxiliary cross-vein slightly before junction of small cross-vein and the fourth, furcation of fifth vein is just distad to the same, and the furcation of the fourth is distad to the junction of the small cross-vein and the third. Length, 3.5 mm.

Atherton, Mo. Collected by the writer, April 13, 1900.

Neoglaphyroptera lineola, n. sp.

Female: Differs from *N. stiata* Will., in the following particulars: The brown of occiput is sharply defined, the center and sides being yellow; pleuræ with a brown spot anterior to and above the middle coxæ, metapleuræ above hind coxæ brown; the last two abdominal segments almost wholly yellow; all trochanters, the posterior coxæ and femora black, the latter with a narrow longitudinal line on the inner and outer sides, yellow; the brown cross-band on outer part of wing is much broader. Length, 4 mm.

One specimen; Kern county, California.

Neoglaphyroptera cuneola, n. sp.

Female: Yellow, shining; vertex with a transverse black line, occiput with a reddish cast and sparse yellow pile, antennæ, except base, dark brown; mesonotum with three shining black stripes, the two lateral ones nearly as broad as long, the middle one wedge-shaped, scarcely reaching the middle of the dorsum, pile yellow, scutellum yellow, with two long yellow bristles; pleuræ black, yellow above anterior coxæ, metanotum black, halteres yellow; abdomen shining black, except narrow lateral margins, apex, and venter, which are yellowish, pile very short and yellow; legs yellow, a small spot on trochanters, extreme tip of posterior femora, tibiæ, and tarsi in large part, fuscous; wings hyaline, a brownish fascia traversing the wing, starting about midway between tip of first vein and apex of wing. Length, 4 mm.

One specimen; Colorado Springs, Colo., August, 1894. Collected by E. S. Tucker.

CULICIDÆ.

Culex affinis, n. sp.

Female: Head and members dark brown, proboscis lighter in the middle; scales of head light brown; thorax brown, mesonotum uniformly covered with brownish yellow scales, pile black, scales of pleuræ mostly white, abdomen brownish scaled, a narrow band at bases of segments white, pile pale yellow, venter white-scaled; coxæ and base of femora pale yellow, distal end of latter dark brown, tibia dark brown with extreme apex and base white; tarsi concolorous with both ends of joints white, which on the front tarsi is indistinct, and the last joint

of hind tarsi wholly white; claws small, simple; veins of wings thinly clothed with light brown scales, petiole of first submarginal cell one-third length of that cell, cross-veins at ends of first and second basal cells the length of the cross-vein at end of second basal cell distant from each other. Length, 3.5 mm.

One specimen; Arizona. Prof. F. H. Snow.

Culex apicalis, n. sp.

Female: Head brown; scales mostly light yellow, some long brown ones; palpi and proboscis wholly brown, antennæ brown, with base lighter, thorax brown with light brown scales, pile black; abdomen dark brown, covered with brownish scales, except those on the posterior margin, which are white, forming on the second and third segments small triangles by projecting forward in the middle, and on the following segments forming narrow bands, venter covered largely with white scales; coxæ and base of femora pale yellow, rest of legs and tarsi wholly brown, tarsal claws small and simple; veins of wings sparsely covered with hairs and scales, petiole of first submarginal cell one-half the length of that cell, the cross-veins at ends of first and second basal cells distant from each other. Length, 4⅛ mm.

Two specimens; Arizona. Prof. F. H. Snow.

Culex particeps, n. sp.

Male: Head brown, covered with yellowish scales, among which are some pure white ones, few hairs along eyes black; proboscis dark brown, bearing a few yellowish scales; palpi brown, base of each joint white; antennæ brown, lighter at base; thorax brown, bearing yellow and white scales, the latter most prominent on posterior part, pile black; halteres pale with brown knobs; abdomen brown, scales at base of segments white, on remaining part of segments the scales are brown, a few scattering ones yellow, venter almost wholly covered with white scales; fore coxæ brown, others rather pale; femora black, with the posterior side on basal half, and a ring near apex white-scaled; tibiæ black, with a few white scales; tarsi black, with bases white; front and middle tarsal claws toothed, hind ones small and simple; veins of wings

light brown, bearing narrow brown scales, those on the anterior part of wing intermixed with white ones; a spot at the origin of the second vein, the small cross-vein, and a spot beginning at the base of first submarginal and crossing the second submarginal and first posterior cells, clouded with brown; the cross-veins at end of first and second basal cells approximated; petiole of the first submarginal cell one-half the length of the cell.

Female: Agrees with male, except has more long black scales on head, petiole of first submarginal cell one-third the length of that cell; all tarsal claws simple. Length, 8 mm.

One male and six females; Arizona. Prof. F. H. Snow.

CHIRONOMIDÆ.

Ceratopogon dimidiatus, n. sp.

Female: Head black, occiput and cheeks subopaque, front shining, eyes widely separated, face shining, with a yellowish cast, antennæ dark brown, first two joints yellowish, antennal hairs whitish, palpi brown, tip of last joint yellowish; thorax black, mesonotum subshining, faintly whitish pollinose, pleuræ with a longitudinal silvery white pollinose band, halteres light yellow; abdomen black, subshining, sparse, pile yellowish-white; coxæ black, apices yellow, basal half of femora yellow, apical half black, tibiæ wholly black, tarsi yellow, with apices of first, second, third and the last two joints wholly black, metatarsi twice the length of the following joint, last joint of fore tarsi swollen, empodia of all tarsi wanting, front tarsal claws rather small but of equal length, middle and hind tarsi each with a single long claw which bears a rather long basal tooth, the last tarsal joints being partly padded beneath with short, dense hairs; wings hyaline, larger veins dark brown, third vein connected with the first by a cross-vein, the wing in this region with a brown spot; the third vein ends at about four-fifths of the distance from the tip of the first vein to apex of wing; at this point is a second brown spot; fourth and fifth veins furcate opposite the small cross-vein. Length, 3.5 mm.

Four specimens; Grand Canon, Arizona.

STRATIOMYIDÆ.

Euparyphus.—*Table to the species.*

1. Scutellum black, sometimes yellowish at tip; spines largely yellow..... 2
   Scutellum yellow, or red, at most black at base..... 7
2. Femora black, except the tip and sometimes the base..... 3
   Femora yellow or testaceous, except posterior pair, which is variously marked with black..... 5
3. One submarginal cell.....*tetraspilus* Loew.
   Two submarginal cells 4
4. Dorsum of abdomen with yellow spots other than on the lateral margins.....*bellus* Loew.
   Dorsum without yellow spots near the center.....*albipilosus*, n. sp.
5. Antennæ black..... 6
   First two antennal joints yellow; (third in the type wanting), *ornatus* Will.
6. Third vein furcate.....*stigmaticalis* Loew.
   Third vein not furcate, discal cell fuscous.....*carbonarius* Giglio-Tos.
7. Eyes thickly pubescent; (sparsely in *elongatulus*, female)..... 8
   Eyes not pubescent; (sparsely in *mutabilis*, male) 10
8. Face reddish yellow.....*elongatulus* Will.
   Face largely black, with yellow markings..... 9
9. Abdomen with ten yellow spots.....*decem-maculatus* O. S.
   Abdomen with seven yellow spots.....*septem-maculatus*, n. sp.
10. Thorax greenish, with black stripes.....*elegans* Wied.
    Thorax red, with black stripes..... .....*tricolor* O. S
    Thorax black, with reddish yellow, or yellow markings..... 11
11. Markings of abdomen largely green.....*limbrocutris* Will.
    Markings of abdomen not green..... 12
12. Third longitudinal vein furcate..... 13
    Third longitudinal vein not furcate..... 15
13. Face shining black, except lateral, subtriangular, whitish pollinose spots, and in some specimens two narrow lines extending downward from base of antennæ.....*mutabilis*, n. sp.
    Face largely yellow..... 14
14. Apical portion of abdomen reddish yellow.....*apicalis* Coq.
    Apical portion of abdomen not reddish yellow.....*amplus* Coq.
15. First abdominal segment with a yellow spot in the middle, *crucigerus* Coq.
    First abdominal segment without such spot..... 16
16. Venter of abdomen, except lateral margins, wholly black...*atriventris* Coq.
    Venter not so colored..... 17
17. Abdomen, besides margins, with two yellow spots on either side, *brevicornis* Loew.
    Abdomen with the margins, and an interrupted fascia on the posterior part of the fourth segment, yellow.....*tahoensis* Coq.

The above table is a continuation of the one given by Osten Sacken, and is intended for the reception of species since de-

scribed. *E. nigra* Bigot, from California, is too poorly described to have a place among the known species; the description is fairly complete as far as it goes, but is silent concerning the legs, and says very little about the wings. A few of the species I have not seen and had to rely upon the descriptions.

Euparyphus mutabilis, n. sp.

Male: Head black, frontal triangle yellow, face shining black with lateral subtriangular whitish pruinose spots, in some specimens with two narrow yellow lines extending downward from base of antennæ; inferior occipital orbits whitish pruinose, facial orbits, cheeks and occiput with whitish pile, mouthparts yellow, antennæ wholly brownish black, eyes sparsely pubescent; thorax black, pile on dorsum pale yellow, on sides almost white, two yellow stripes on each side of middle, which in some specimens meet the broader lateral stripes in front, each of the lateral stripes contains a black spot above base of wing; a narrow yellow fascia on upper part of pleura between humerus and base of wing, a small spot at lower end of mesopleural suture, a larger one on metapleuræ yellow; scutellum yellow, sides at base and tips of spine black, halteres yellow; abdomen black with yellow margin, which sends broad projections inward on each segment, venter black with narrow yellow bands on posterior borders of segments, the one on the second segment usually short but broad; coxæ black, femora black except apices, tibiæ slightly reddish yellow except a narrow brown band near the middle, the tarsi wholly brown, the base of middle and posterior metatarsi testaceous; wings hyaline, stigma and larger veins yellowish, third vein forked.

Female: Front yellow, with a median black line extending from ocellar tubercle to just above base of antennæ where it is produced laterad, frontal orbits on upper half black, which color extends from the superior angle of eye diagonally to near middle of vertex, also narrowly along superior occipital orbits, remaining occipital orbits broadly yellow; the two yellow line of face broader than in the male and slightly divergent below, eyes bare, yellow on sides of thorax more prominent, lateral yellow margin of abdomen more regular in outline, the legs less dark, all metatarsi and base of second tarsal joint yellow; otherwise same as male. Length, 6 mm.

Many specimens of each sex, Lusk, Wyo., collected July, 1895, by W. A. Snow and Hugo Kahl. Two female specimens from Colorado Springs, Colo., collected by E. S. Tucker, during August, 1894, belong to this species, but the yellow abdominal margin is narrower and the black coloring of the front is in predominance.

Euparyphus albipilosus, n. sp.

Male: Head black, facial orbits broadly and inferior occipital orbits narrowly white pruinose and white pilose, antennæ situate on yellow spots, black, first and second joints yellow on their adjacent sides, mouth-parts yellow, eyes sparsely pubescent; thorax black, pile white, dorsum with two short, narrow, whitish yellow lines, lateral lines abbreviated anteriorly and interrupted behind the suture so as to form two spots, one just before the suture and the other on the posterior angle of mesonotum, a strip runs from humerus to and under the wing and narrowly onto the sides of the metathorax, an isolated spot low down on the pteropleura; scutellum black, spines yellowish, with black apices, halteres whitish yellow; abdomen black, yellowish margin narrow, projecting inward from posterior angles of second, third and fourth segments, venter black tinted with yellow in the middle of the segments; coxæ yellowish, brownish black at base, femora black, with base and apex, tibiæ except tinge of brown near middle, fore metatarsi at base, first and second joints of middle and hind tarsi whitish yellow; wings hyaline, large veins and stigma yellowish, third vein furcate.

Female: Front reddish yellow, median black line broadly expanded just above antennæ and almost reaching the eyes, frontal orbits on upper half and superior occipital orbits black, the latter slightly tinged with red, area around the antennæ, a small spot along the eye opposite antennæ, and two small conical spots on face above oral margin, yellow; facial and inferior occipital orbits white pruinose and white pilose; thorax without spot in front of suture; markings on pleuræ almost pure white, hind femora and tibia almost wholly black; veins and stigma brown; in other respects similar to male. Length, 5.5 mm.

Three specimens: Two females, collected by Prof. F. H. Snow, during August, 1902, near Flagstaff, Ariz.; and one male, from Colorado Springs, Colo., collected by E. S. Tucker, August, 1894.

Euparyphus septem-maculatus, n. sp.

Male: Head black, frontal triangle black with two minute white pruinose spots at apex, face black, with a subtriangular yellow spot on either side, facial and inferior occipital orbits narrowly white pruinose, mouth-parts brown, antennæ black, eyes thickly pubescent; thorax black, pile whitish yellow, two narrow yellow lines on dorsum do not reach beyond suture, lateral stripes broad, extend onto the humeri and are interrupted behind suture, a vertical spot anterior and parallel to and a second spot at inferior end of the mesopleural suture; scutellum yellow, narrow margin of base and tips of spines black, halteres yellow; abdomen black with three yellow spots on each margin, the first, on second segment, small, the second and third oblique, broad and narrow, respectively, and on the third and fourth segments, the second projecting onto the anterior angles of the fourth segment, a yellow triangular spot on apex of fifth segment and extends onto posterior margin of fourth segment; venter black, except short yellow bands on central portion of segments; coxæ black, femora black, except tips, tibiæ, first and second joints of fore tarsi, all joints, except the fourth, of the middle and hind tarsi yellow; wings hyaline, large veins and stigma yellow, basal, discal and submarginal cells slightly tinged with yellow, third vein furcate. Length, 8.5 mm.

One specimen; Palo Alto, Cal., September, 22, 1894. Leland Stanford Jr. University. (Lot 25, sub. 8.)

Euparyphus limbrocutris Williston.

Euparyphus, n. sp.? Williston, Canad. Ent., XVII, 7, p. 126.

After writing the description of this insect, Doctor Williston must have concluded that it is a good species, for the specimen now appears in the collection of the University of Kansas under the above name in his own writing. I take pleasure in giving the name for publication.

Chrysochroma albipes Town.

Chrysonotus albipes, n. sp., Townsend MS.

Male: Front green, finely scrobiculate, with yellow pile, that on vertex rather long, tubercle above antennæ and ocelli light yellow; face yellow, with yellow pile and slightly under than front, mouth-parts yellow, cheeks very narrow, black,

bearing white pile, occiput black with whitish pruinose; antennæ yellow, short hairs of first and second joints black, arista black, slightly enlarged at base where it is also sparsely plumose; thorax green, with mesonotum and scutellum finely scrobiculate and covered with yellow pile, very narrow white line along dorsopleural suture, post-alar callosity with a yellowish cast, pleura with violaceous reflections and white pile, halteres yellow; abdomen subshining bronze, wholly covered with yellow pile; coxæ yellow, base of middle and posterior ones shiny green, femora light yellow, middle and posterior ones brownish green near apex, tibiæ and tarsi, except last joint which is brown, light yellow, thickly covered with short white pile; wings hyaline with a smoky tinge, except extreme base, stigma light greenish yellow. Length, 9.7 mm.

One specimen; Guito, Mexico.

This specimen I found in the Townsend material, now forming a part of the collection in the University of Kansas. It bore a manuscript label of the above name, and as I have been unable to find a published description of it, I take pleasure in presenting one here.

ACROCERIDÆ.

Opsebius pterodontinus O. S., Berl. Ent. Zeit., Bd. XXVII, 1883, Heft II.
Opsebius agelenæ Mel., Ent. News, Vol. XIII, No. 6.

That Mr. Melander overlooked Osten Sacken's species is evident from the fact that he did not include *pterodontinus* in his table.

CONOPIDÆ.

Oncomyia propinqua, n. sp.

Male: Black, with uniform grayish pollen, subshining; face and cheeks yellow, in certain lights silvery, front luteous, black on upper half, with a mixture of black and yellowish pile, occiput black on upper half, antennæ rufous, upper border and distal end of third joint black, arista brown, second joint scarcely longer than the third, proboscis and a spot on clypeus black; mesonotum, scutellum and pleuræ uniformly grayish pollinose and yellowish pilose, halteres yellow; abdomen with first and second segments and venter of a reddish cast, remainder uniformly cinerous pollinose and yellowish pilose; legs wholly blackish, except base of tibæ, which are yellowish, pulvilli and

claws, except apex, yellow; wings slightly infuscated, yellowish towards base, veins brown. Length, 4.5 mm.

Habitat?

This species stands between *O. abbreviata* Loew. and *O. baroni* Will., agreeing with the former in coloration and with the latter in size and length of the antennal joints. It differs from the latter in the femora, being wholly blackish.

Zodion.—*Table to the species.*

1. Scutellum triangular, thorax with opaque and black spots...*pictulum* Will.
   Scutellum oval 2
2. Very small species, rarely 4 mm. long..... 3
   Larger species..... 5
3. First posterior cell closed.....*parvus*, n. sp.
   First posterior cell open..... 4
4. Sixth and seventh abdominal segments reddish.....*nanellum* Loew.
   Sixth and seventh abdominal segments in general color black, *pygmœum* Will.
5. First posterior cell closed 6
   First posterior cell open..... 9
6. Palpi quite long, clavate.....*palpalis* Robt.
   Palpi not long and clavate 7
7. Petiole at distal end of first posterior cell longer than the small cross-vein .....*scapularis*, n. sp.
   Petiole shorter than the cross-vein..... 8
8. Abdomen largely rufous.....*bicolor*, n. sp.
   Abdomen largely black .....*abitus*, n. sp.
9. Posterior part of abdomen golden yellow.....*auricaudatum* Will.
   Abdomen not so colored..... 10
10. Thorax with a pair of median pollinose stripes; abdomen with oblique pollinose spots on at least the third segment.....*obliquefasciata* Macq.
    Thorax pollinose, with at least two slender black stripes; abdomen more uniformly pollinose.....*fulvifrons* Say.

Zodion obliquefasciata Macq.

Myopa obliquefasciata Macq., Dipt. Exot. 1er Suppl., 141, 1.
Zodion splendens Jaen., Neue Exot. Dipt., 405, Mexico.
Zodion leucostoma Will., Trans. Conn. Acad., VI, p. 380.

Specimens received through exchange from Prof. C. W. Johnson, and bearing the name *Z. obliquefasciata* Macq., led me to believe that the above synonymy is correct.

Zodion abitus, n. sp.

Female: Black, grayish pollinose; face and cheeks yellow, in some light silvery, front black on upper part, fulvous near antennæ, occiput black on upper half, proboscis black, palpi small,

yellow, antennæ rufous, with black hairs, arista black at base; mesonotum black, gray pollinose, with two short, indistinct black lines, pleuræ and scutellum black, gray pollinose, the former devoid of pile except on sterno-pleuræ; abdomen black, subshining, sides of second, middle and sides of third and following segments gray pollinose; legs, except knees, uniformly reddish yellow; wings slightly infuscate, lighter near base, veins brown, first posterior cell closed and petiolate, petiole shorter than the small cross-vein. Length, 4.5 mm.

Two specimens; Kansas and Massachusetts.

This species is close to *Z. fulvifrons* Say, but differs from it in size, the subshining abdomen, and closed posterior cell.

Zodion scapularis, n. sp.

Male: Black, grayish pollinose, pile black; face and cheeks yellow, latter one-half the height of eye, front narrow, fulvous, with a black line on each side above, antennæ red, first joint, distal end of third, and arista, black, occiput, proboscis with a short palpi, black; thorax black, grayish pollinose, inner half of humeri shining black, scutellum and pleuræ black, the latter, except the sternopleuræ, devoid of pile, halteres yellow; second and third segments of abdomen red, subshining, pollinose on sides, remaining segments black, covered with gray pollen, pile black; legs, except knees and pulvilli, black; wings tinged with brown, veins black, first posterior cell closed, petiolate, with the petiole longer than the small cross-vein. Length, 5 mm.

One specimen; Arizona. Prof. F. H. Snow.

Near *Z. palpalis* Robt., but differs in the short palpi, shining spot on humeri, and wholly pollinose fourth abdominal segment.

Zodion parvis, n. sp.

Male: Black; face and cheeks yellow, front fulvous, black at vertex and narrow along sides, antennæ red, hairs and arista black, occiput and proboscis, with the short palpi, black; mesonotum, scutellum, pleuræ subshining, pollen gray, most prominent on humeri and below base of wings, halteres yellow, pile black; abdomen black, subshining, the gray pollen seen more distinctly on the sides, pile black; legs, except basal half of tibiæ, metatarsi, and pulvilli, black; wings, except base,

tinged with brown, veins dark brown, first posterior cell closed and petiolate, the petiole almost as long as the posterior cross-vein. Length, 3.5 mm.

Two specimens; Arizona. Prof. F. H. Snow.

Zodion bicolor, n. sp.

Male: Black, gray pollinose; face and cheeks yellowish white, front fulvous, darker on upper half, antennæ red, hairs and arista black, occiput largely, and proboscis with the small palpi wholly, black; thorax thickly gray pollinose, pile black, halteres yellow; first segment of abdomen black, remaining segments red, pile black; legs reddish, with front and middle femora on top and hind ones near apex, all tibiæ and tarsi near apices black; wings, except base, tinged with brown, first posterior cell closed and petiolate, petiole shorter than the small cross-vein. Length, 5 mm.

Two specimens; Douglas county, Kansas. Prof. F. H. Snow.

Myopa.—*Table to the species.*

1. Cheeks below very distinctly fringed with pile; wings with spots..... 2
   Cheeks not fringed with pile below..... 3
2. Face with black spots.....*pictipennis* Will.
   Face without black spots; pile of abdomen long.....*pilosa* Will.
3. Abdomen chiefly black..... 4
   Abdomen red or reddish..... 5
4. Pile of abdomen light yellow.....*vesiculosa* Say.
   Pile of abdomen black.....*plebeia* Will.
5. First posterior cell closed.....*clausa* Loew.
   First posterior cell open..... 6
6. Mesonotum, except humeri and sides, black.....*tectura*, n sp.
   Mesonotum with three black spots.....*clausa* var. *aperta* Roeder.

The above is a continuation of Doctor Williston's table to receive the new species.

Myopa tectura, n. sp.

Male: Rufous, opaque; face and cheeks yellow, front concolorous, with ocellar spot black, antennæ red, shorter than in *aperta*, hairs black, upper half of occiput reddish, proboscis and palpi brown; thorax red, mesonotum, except sides and humeri, and metanotum black, latter subshining, halteres yellow, knobs reddish; abdomen opaque, rufous throughout, pile black; coxæ rufous, black at apices, femora and tibiæ opaque red,

knees yellowish, tarsi yellowish, last joint black; wings, except base, light brown, first posterior cell open. Length, 9 mm.

Habitat?

PIPUNCULIDÆ.

Pipunculus nigricornis, n. sp.

Male: Head black, occiput, front above the antennæ, and face silvery pollinose, mouth-parts yellowish brown, antennæ black, third joint short acuminate, arista black, swollen at base; thorax black, mesonotum brownish pollinose, pleuræ and metanotum silvery pollinose, scutellum subopaque, halteres black with base brown; abdomen black, subopaque, first segment with narrow posterior border, second, third and fourth segments with an interrupted posterior band which widens laterally, and the fifth segment with a broad posterior band, white pollinose, hypopygium black, with cleft to the right of median line; coxæ black, silvery pollinose, femora, except both ends, tibiæ narrowly in the middle, and the last joint of the tarsi, black, other parts yellow, all femora grayish pollinose except the hind ones on inner side; wings hyaline, stigma fuscous, small cross-vein slightly before the tip of the auxiliary vein and at the junction of the basal and middle thirds of the discal cell. Length, 4.2 mm.; wings, 5 mm.

One specimen. Collected by the writer near Atherton, Mo., May 19, 1901.

Pipunculus fuscitarsis, n. sp.

Male: Head black, occiput, front near antennæ and face silvery pollinose, mouth-parts brown, antennæ black, third joint short acuminate, in certain lights with a whitish reflection, base of arista swollen; thorax black, mesonotum brown pollinose, humeri inclined to yellow, pleuræ and metanotum silvery pollinose, scutellum concolorous, halteres dark brown; abdomen black, first segment with a narrow posterior band white pollinose, also a few black bristly hairs on each side, the remainder of abdomen uniformly brownish pollinose, hypopygium subshining black, cleft to right of median line; legs largely black. uniformly gray pollinose except hind femora on inner side, knees and tips of tibiæ yellow, tarsi brownish with last joint black; wings, except base, slightly tinged with fuscous, stigma dark brown, small cross-vein opposite tip of auxiliary

vein and slightly beyond the junction of the basal and middle thirds of the discal cell. Length, 4.5 mm.; wing, 5.2 mm.

One specimen; New Mexico, August. Collected by Prof. F. H. Snow.

SAPROMYZIDÆ.

Pachycerina dolorosa Will.

Pachycerina dolorosa, n. sp., Williston MS.

Female: Reddish yellow, shining vertical spot, under side of the third joint of the antennæ and the abdomen black; wings brown; head as in *P. verticalis*, the ocellar spot larger, the third joint of the antennæ longer, and distinctly black on the under side; the palpi narrower, eyes a little smaller, the cheeks broader, and the face somewhat more receding; mesonotum with a median black or deep brown stripe; femora dark brown at the base; front femora, otherwise, brownish; front tibiæ and tarsi, except the immediate base of the former, black, middle tarsi brownish; wings brown, deeply so along the costa; penultimate section of the fourth vein nearly as long as the ultimate section. Length, 5 mm.

Abdomen shining black.

Five specimens; Colorado. Comstock. No. 241, Morrison. (The above description is Doctor Williston's.)

OSCINIDÆ.

Chlorops.—*Table to the species.*

1. Mesonotum black, at most with sides yellow 2
   Mesonotum not so colored 11
2. Legs largely black 3
   Legs largely yellow 5
3. Front with a median sulcus ..... *fossulata* Loew.
   Front without a median sulcus 4
4. Palpi black ..... *pullipes* Coq.
   Palpi yellow ..... *bilineata*, n. sp.
5. Mesonotum grayish pollinose 6
   Mesonotum not grayish pollinose 7
6. Third antennal joint linear ..... *nigricans* Loew.
   Third antennal joint ovate ..... *pulchripes* Loew.
7. Hind tibiæ brown or black in the middle 8
   Hind tibiæ reddish yellow or yellow 9
8. Scutellum piceous ..... *procera* Loew.
   Scutellum yellow ..... *scabra* Coq.
9. Palpi black ..... *abdominalis* Coq.
   Palpi yellow 10

10. Third longitudinal vein curving forward ..... *confluens* Loew.
Third longitudinal vein straight ..... *grata* Loew.

11. Antennæ, except sometimes the arista, wholly black 12
Antennæ not wholly black 14

12. Legs largely black ..... *appropinqua*, n. sp.
Legs largely yellow 13

13. Frontal triangle wholly black ..... *melanocera* Loew.
Frontal triangle with two oval spots ..... *liturata*, n. sp.

14. Palpi largely black 15
Palpi yellow 20

15. Arista black ..... *crocota* Loew.
Arista largely whitish 16

16. Face marked with black 17
Face not marked with black 18

17. Face with two black lines ..... *eucera* Loew.
Face with four black lines ..... *sanguinolenta* Loew.

18. Clypeus black on sides ..... *maculosa* Loew.
Clypeus yellow 19

19. Third antennal joint wholly black ..... *pubescens* Loew.
Third antennal joint not wholly black ..... *palpalis*, n. sp.

20. Mesonotum without distinct markings 21
Mesonotum with distinct markings 22

21. Pleuræ immaculate ..... *unicolor* Loew.
Pleuræ spotted ..... *microcera* Loew.

22. Mesonotum with three black vittæ 23
Mesonotum with five black vittæ 27
Mesonotum largely red, with two grayish lines ..... *alternata* Loew.

23. Third vein curving forward 24
Third vein straight or nearly so 26

24. Third antennal joint wholly black ..... *gundlachi* Loew.
Third antennal joint black at apex 25

25. Arista black ..... *parva*, n. sp.
Arista largely white ..... *versicolor* Loew.

26. Front with a longitudinal sulcus ..... *mellea* Loew.
Front without such sulcus ..... *assimilis* Macq.

27. Arista white, at most base yellow 28
Arista not white, at least base brown or black 30

28. Third antennal joint wholly black 29
Third antennal joint with apex black ..... *rubicunda*, n. sp.

29. Clypeus black ..... *aristalis* Coq.
Clypeus yellow ..... *trivittata* Will.

30. Humeri usually with black spots 31
Humeri not with black spots 38

31. Face much produced below ..... *producta* Loew.
Face not produced below 32

32. Clypeus wholly black or brownish black 33
Clypeus black only on the sides 34

33. Posterior tibiæ wholly yellow.....*obscuricornis* Loew.
Posterior tibiæ brownish annulate.....*sahlbergii* Loew.
34. Abdomen largely yellow .....*quinquepunctata* Loew.
Abdomen largely black 35
35. Second and third veins curved forward.....*recurva*, n. sp.
Second and third veins straight..... 36
36. The yellow of abdomen confined to bases of segments.....*ingrata* Will.
The yellow of abdomen confined to apices and lateral margins of segments, 37
37. Third antennal joint wholly black .....*halteralis*, n. sp.
Third antennal joint not wholly black.....*variceps* Loew.
38. Third antennal joint wholly black..... 39
Third antennal joint not wholly black 41
39. Terminal portion of the arista white..... 40
Terminal portion of arista not white.....*sulphurea* Loew.
40. Abdomen largely black.....*graminea* Coq.
Abdomen largely yellow.....*albifascies*, n. sp.
41. Pleuræ spotted.....*rubida* Coq.
Pleuræ immaculate.....*cinerapennis*, n. sp.

In the above table no attempt has been made towards a subdivision of the genus, it being intended merely for an easy disposition of the known species of *Chlorops* in its widest sense.

Chlorops appropinqua, n. sp.

Head yellow, occiput on upper half, frontal triangle, antennæ, except arista, which is brownish, clypeus wholly, and palpi, black, third antennal joint rounded, cheeks at least as wide as one-half the eye height, the frontal triangle smooth, except on the sides, and reaches the anterior edge of the front; thorax yellow, mesonotum with three broad black stripes reaching its entire length, pleuræ with three black spots, scutellum yellow, blackish on sides at base, halteres yellow; abdomen black, narrow lateral margins, apex and venter yellow; legs black, the knees, middle and hind coxæ, middle tibiæ almost wholly, posterior tibiæ at extreme tip, and base of middle and hind tarsi yellow; wings hyaline, second and third veins almost straight, hind cross-vein slightly more than its length from the small. Length, 3.5 mm.

Eleven specimens from Hamilton and Morton counties, Kansas, collected by Dr. F. H. Snow; two from Garden City, Kan., collected by H. W. Menke; two from Lusk, Wyo., collected by Messrs. W. A. Snow and Hugo Kahl, and two from Colorado.

At first I took this to be that form of *Chlorops pullipes* Coq.,

which has two yellow stripes on the mesonotum, but, after more careful study and comparison with specimens of *pullipes*, I recognized in it a new species. The cheeks are much broader than in *pullipes*, and the coloration of the legs and abdomen different.

Chlorops cinerapennis, n. sp.

Head yellow, middle of occiput, frontal triangle narrowly, the rounded third antennal joint, except inner side of base, and base of arista, black, face, cheeks and mouth-parts light yellow; thorax yellow, mesonotum with the usual three broad black stripes plus the two narrow ones above base of wing, pile yellowish brown, dense but extremely short, causing a pollinose appearance on the black parts, pleuræ and scutellum immaculate, halteres yellowish white; abdomen fuscous, posterior margins of segments and spot on anterior angles of second segment darker, venter yellow, pile black; legs yellow, with the tip of the tarsi fuscous; wings intense grayish hyaline, second and third veins about straight, hind cross-vein twice its length from the small. Length, 3.5 mm.

Two specimens; Riley county, Kansas. Marlatt.

Chlorops bilineata, n. sp.

Head yellow, occiput, except upper and lower angles, frontal triangle, antennæ, with base of arista, and clypeus, black, face on sides with two narrow brown lines, third joint of antennæ rounded, arista with terminal portion white; mesonotum black, lateral margins yellow, humeri each with a black spot, pleuræ reddish yellow with four black spots, scutellum brownish, halteres yellow; coxæ yellow, femora and tibiæ, except each end, black, tarsi fuscous towards tip; abdomen black, narrow lateral margins and posterior border of last segment yellow; wings hyaline, second and third veins curving forward, hind cross-vein slightly lesst han its length from the small. Length, 4 mm.

One specimen; North Park, Colo. Collected by Dr. F. H. Snow.

Chlorops liturata, n. sp.

Head yellow, occiput in the middle and narrowly on sides, frontal triangle, except two oval yellow spots, antennæ except arista, clypeus on sides, and palpi, black; third joint of an-

tennae rounded, arista yellow at base, whitish at tip, frontal triangle does not reach anterior border of front, the latter bearing a few black hairs; mesonotum with the usual three broad, black stripes and the two narrow ones above base of wings, pile black, humeri each with a black dot, pleuræ yellow, marked with six black spots, scutellum yellow, blackish on sides at base, halteres yellow; legs yellow, a spot on base of front coxæ, one on top of each femora, the posterior tibiæ near middle, front tarsi wholly, and middle and hind tarsi except base, brownish black; abdomen brownish black, base of first segment, lateral margins and tip of last segment yellow, venter brown; wings hyaline, second and third veins straight, hind cross-vein more than its length from the small. Length, 5 mm.

Four specimens; Lusk, Wyo. Collected by W. A. Snow and Hugo Kahl.

Chlorops recurva, n. sp.

Head yellow, occiput in the middle, and narrowly in the middle of the sides, the short frontal triangle, the rounded third antennal joint, with base of arista, and cypleus, black; first two antennal joints and terminal portion of arista brownish yellow, palpi yellow; mesonotum yellow, with the usual three broad and two narrow black stripes, humeri each with a black dot, another black dot behind the humeri, and on the extreme lateral margin is a brown line running from the humeri to the base of the wing, pleuræ yellow, with six black spots, scutellum narrowly yellow in the middle, dark brown on the sides, halteres whitish yellow; legs reddish yellow throughout, tips of tarsi fuscous; abdomen brownish black, apex and venter yellowish; wings hyaline, second and third veins curved forward, cross-veins approximated. Length, 3.4 mm.

One specimen; Lusk, Wyo. Collected by W. A. Snow.

Chlorops halteralis, n. sp.

Head yellow, occiput except sides, the narrow, elongate, frontal triangle, the rounded third antennal joint with the arista, and clypeus on the sides, black, face whitish yellow, palpi yellow; thorax yellow, five dorsal vittæ, two humeral dots, four spots on pleuræ, and metanotum, shining black, halteres whitish; legs yellow, tips of tarsi fuscous; abdomen shining brownish black, lateral margins, apices of segments

and venter yellow; wings hyaline, second and third veins about straight, hind cross-vein one and a half times its length from the small. Length, 2.5 mm.

One specimen; Arizona. Collected by Dr. F. H. Snow, August, 1902.

Chlorops palpalis, n. sp.

Head reddish yellow, occiput with two narrow lines above, frontal triangle with ocellar dot, and a spot in each angle, the rounded third antennal joint, except base, and palpi, black, arista whitish with base yellow, face and cheeks light yellow; mesonotum reddish yellow, shining, with the usual three broad black stripes and two narrow lateral ones, humeri without black dots, pleuræ without markings, scutellum reddish yellow, halteres whitish; legs, except the fuscous tips of the tarsi, yellow; abdomen fuscous, posterior margins of segments and venter yellowish; wings hyaline, second and third veins straight, hind cross-vein twice its length from the small. Length, 3.2 mm.

Two specimens; Atherton, Mo. Collected by the writer during May and July.

Chlorops albifascies, n. sp.

Head yellow, center of occiput above, frontal triangle, rounded third antennal joint, with base of arista, black, frontal triangle with a shallow longitudinal sulcus, first two joints of antennæ dark brown, distal portion of arista whitish, face whitish, mouth-parts yellow; mesonotum yellow, marked with five opaque black vittæ, humeri without dots, pleuræ and scutellum yellow, immaculate, halteres whitish; legs yellow, tips of tarsi black; abdomen largely obscure yellow, sutures and spot in anterior angle of second segment black, venter yellow; wings hyaline, second and third veins straight, hind cross-vein over twice its length from the small. Length, 3.5 mm.

Seven specimens; Atherton, Mo. Collected by the writer during May and June.

Chlorops parva, n. sp.

Head yellow, occiput except upper and lower parts of sides, the small frontal triangle, distal portion of the rounded third antennal joint, the short pubescent arista, and the clypeus, black, palpi yellow; mesonotum yellow, with three opaque

black vittæ, humeri each with a black dot, also a spot below each, pleuræ with three black spots, scutellum and halteres yellow; abdomen light fuscous, blackish towards base, lateral margins yellow; legs yellow, tarsi fuscous; wings hyaline, second vein almost straight, the third curving forward, cross-veins approximated. Length, 1.8 mm.

One specimen; Douglas county, Kansas.

Chlorops rubicunda, n. sp.

Head yellow, face and cheeks reddish yellow, occiput, except sides, frontal triangle largely, tip of third antennal joint and clypeus black, third antennal joint slightly longer than wide, base of arista yellow, terminal portion white, short pubescent, palpi yellow, frontal triangle with a shallow median sulcus; mesonotum yellow, sometimes with a reddish tinge, marked with five opaque black vittæ, humeri each with a black dot, pleuræ reddish yellow, marked with four black spots, scutellum yellow, halteres whitish; abdomen brownish black, lateral margins and venter largely black; legs yellow, femora on upper side, tibiæ near middle, and tip of tarsi, fuscous; wings hyaline, second vein straight, third curving forward, hind cross-vein about twice its length from the small. Length, 4 mm.

Three specimens; Lusk, Wyo. Collected by W. A. Snow and Hugo Kahl.

II. AFRICAN SPECIES.

CONOPIDÆ.

Conops fumipennis, n. sp.

Male: Front reddish, face velvety yellow, in certain lights of a silvery-yellow reflection, cheeks and occiput reddish, antennæ reddish throughout, first and third joints subequal, second about one and one-half times as long as either, proboscis reddish, black at tip; thorax rufous, the three dorsal vittæ confluent, sprinkled with whitish pollen; pleuræ rufous with silvery-white dusted strip, attenuated above; scutel rufous, metanotum black below, whitish pollinose above; halteres light yellow, brown at base; first segment of abdomen black with a narrow red hind border which is sprinkled with a yellowish-white dust; second, third and fourth segments red, blackish above, with a yellow-dusted posterior border which in some cases extends forwards

on the sides; fifth segment red with a narrow anterior border black, the remainder of the dorsum and of the following segment covered with yellow pollen; legs red, front coxæ black at base, tibiæ with a silvery reflection exteriorly, front, middle and posterior tarsi, except base, black, pulvilli and tarsal claws, except tips, light yellow; wings wholly obscure brown, darker along the veins, slightly tinged with yellow at base and near tip of auxiliary vein. Length of body, 14 mm.; wing, 10.5 mm.

Seven specimens; Salisbury, South Africa. Frank L. Snow.

Conops bellus, n. sp.

Male: Front, occiput and cheeks reddish, face velvety yellow, in certain lights silvery yellow; proboscis reddish, black at tip; antennæ reddish, third joint brownish underneath, first and third joints equal, second at least twice as long as either; thorax and scutellum red, the three black dorsal vittæ coalesced, pollen whitish, most distinct in certain lights on the humeri and pleuræ; metanotum black below, red above, sprinkled with whitish pollen above and on the sides, halteres yellow, brownish at base; abdomen in large part red, black on base of segments, which, on some segments, is continued backwards as a median line or spot; on posterior margin of first segment whitish dust, that of second, third and fourth segments yellow; fifth and sixth segments nearly wholly covered with yellow pollen; legs red, front coxæ blackish at base, tibiæ with silvery reflections exteriorly; front, middle and hind tarsi at tips black; wings with costa land subcostal cells yellowish brown, marginal, submarginal, entire base and anterior half of apex of first posterior cell dark brown, first basal cell, except a small spot near apex, bases of discal and third posterior cell and the whole of the anal cell light brown. Length of body, 13 mm.; wing, 9.5 mm.

One specimen; Salisbury, South Africa. Frank L. Snow.

Conops semifumosus, n. sp.

Male and female: Front, occiput and cheeks brown; face velvety yellow, in certain lights silvery; proboscis rufous, black at tip; antennæ rufous, third joint inclining to yellow, first and third joints of equal length, second twice as long as either; thorax rufous, the three black dorsal vittæ coalesced; pleuræ

rufous, black just above the coxæ, with a narrow, silvery dusted line near wing; scutellum rufous; metanotum almost entirely black, silvery and pollinose above, which extends upon the sides; halteres yellow; abdomen red, more or less black on dorsum of first, third, fourth and fifth segments, posterior borders of first five segments and the sixth almost wholly covered with yellow pollen; legs reddish, tibiæ with silvery reflections exteriorly, front and middle tarsi dark brown, posterior ones lighter; wings with costal, subcostal, marginal, submarginal cells, and basal half and anterior part of distal half of first posterior cell brown, which also encroaches upon the proximal portion of basal cells, remainder of wing hyaline. Length of body, 12.5 mm.; wing, 9 mm.

Three specimens; Salisbury, South Africa. Frank L. Snow.

DIOPSIDÆ.

Diopsis affinis, n. sp.

Head light red, ocellar tubercle and an arcuate line on front black, spinate on each side of oral margin; eyestalks red, black at apex, median bristle small, black, apical spine strong, black; antennæ testaceous, arista brown, subdorsal; eyes black, large; thorax black, dorsum shining, humeri, anterior, lateral and posterior margins grayish pollinose; pleuræ black, grayish pollinose; scutellum shining black, pollinose on margin; spines shining testaceous, black at tip; halteres yellowish white; abdomen shining testaceous, venter obscure yellowish, pile sparse; legs pale testaceous; anterior coxæ light gray pollinose, front femora thickened, front tibiæ and tarsi brown, four hind femora armed with spines at distal end; wings hyaline, tinged with brown, veins dark brown. Length, body, 7 mm.; wing, 6 mm.; eyestalk, 2.5 mm.

One specimen; Salisbury, South Africa. Frank L. Snow.

Diopsis pollinosus, n. sp.

Head obscure testaceous, two obscure cross-bands on front, lateral spines of oral margin small; eyestalks reddish brown, expanded ends black; antennæ red, arista brown, subdorsal; thorax and scutellum black, wholly gray pollinose; spines of scutellum brown, yellowish at tip; halteres pale yellow; abdomen black, first segment gray pollinose, second and third segments shining, with lateral gray pollinose spots, remaining seg-

ments wholly gray pollinose; legs reddish brown, anterior femora thickened, anterior tibiæ dark brown, anterior metatarsi testaceous, other joints brown; middle and posterior tarsi pale brown; wings brownish hyaline, a < shaped gray hyaline band with its apex at the tip of anal cell, a transverse gray hyaline band crossing the first posterior cell at about its middle. Length of body, 5.5 mm.; wing, 4.3 mm.; eyestalks, 1.5 mm.

One specimen; Salisbury, South Africa. Frank L. Snow.

Teleopsis nitidus, n. sp.

Head shining brown, with sparse white hairs; eyestalks reddish brown, short, extremely shining black, median bristle long, black, and situated upon a rather enlarged black tubercle; antennæ light reddish, arista dark; thorax and scutellum shining black; spines of scutellum pale yellow, shining black in the middle; abdomen shining black throughout, clavate, with sparse white pile; legs light brown, anterior femora slightly incrassate, other femora toward apex, tibiæ near base and last two joints of tarsi dark brown; wings hyaline, with three transverse brown bands, first one narrowed anteriorly and connected with the second near its middle; second and third connected by a band just the width of the first posterior cell; the hyaline apex of wing faintly tinged with brown. Length of body, 3.5 mm.; wing, 2.2 mm.; eyestalk, 8 mm.

One specimen; Salisbury, South Africa. Frank L. Snow.

SCIOMYZIDÆ.

Sepedon scapularis, n. sp.

Front broader than one of the eyes, excavated, rufous; face yellow, covered with pale yellow pollen; cheeks shining yellow anteriorly, covered with pale yellow pollen posteriorly; occiput shining, rufous, with an obscure narrow transverse line just above the middle of eye height, another one, arcuate, just above the lower corner of eye; mouth-parts mainly rufous, palpi clavate, pale yellow, rufous at tip; first joint of antennæ rufous, second black, rufous toward base, furnished with black hair, third joint lanceolate, black, arista pubescent, white on distal two-thirds, brown at base; thorax black, subshining, scutellum concolorous, three black bristles on lateral margins of thorax, two of them near base of wing; humeri, thorax above front coxæ and a small spot below base of wing testace-

ous, pleuræ black; first segment of abdomen black, remaining testaceous; coxæ and base of femora testaceous, outer end of latter rufous, hind ones with black ring at base and short dark spines beneath, tip of anterior and posterior tibiæ, anterior and posterior tarsi and last two joints of middle tarsi black; wings hyaline, tinged with fuscous, more so towards apex. Length of body, 7 mm.; wing, 7 mm.

Two specimens; Salisbury, South Africa. Frank L. Snow.